

acoustically coupled to flexible tube portion of the flexible eartip; and

a flexible channel located between the output port of the receiver and the first end of the rigid tube nipple.

23. (New) The insert earphone of claim 22 wherein the flexible channel has a first end and a second end, and wherein the first end of the flexible channel is coupled to the output port of the receiver and the second end of the flexible channel is coupled to the first end of the rigid tube nipple.

#### REMARKS

Claims 1-23 are now pending in the above-identified application. Claims 1, 10 and 16 presently stand rejected under 35 U.S.C. 112, second paragraph. Claims 1, 3-5 and 7 presently stand rejected under 35 U.S.C. 103(a) as being unpatentable over Iseberg et al. (U.S. Patent No. 5,887,070) in view of Bauman (U.S. Patent No. 5,982,908). Claims 8-9, and 12-13 presently stand rejected under 35 under 35 U.S.C. 103(a) as being unpatentable over Iseberg et al. in view of Leenen (U.S. 5,395,168). In addition, claim 10 presently stands rejected under 35 U.S.C. 103(a) as being unpatentable over Iseberg et al. in view of Leenen and further in view of Baumann. Finally, claims 15-21 presently stand rejected over Iseberg et al. in view of Bauman.

Applicant has amended claims 1, 8, 10 and 16. Attached hereto as Appendix A are copies of the claims that specifically identify the amendments made.

Applicant respectfully traverses these rejections.

### **The Section 112, Second Paragraph Rejection**

With regard to the Section 112, second paragraph rejection of claims 1, 10 and 16, Applicant believes those claims are sufficiently definite, and notes that the first office action in this case did not include such a rejection. Nevertheless, Applicant has amended claims 1, 10 and 16 for clarification, so they now recite “the tube nipple and housing being configured and arranged such that the angle between a longitudinal axis of the tube nipple and a vertical axis of the housing is obtuse, such that the housing hangs approximately vertically along the side of a user's head when worn.” Applicant directs the Examiner to, for example, Fig.2 and the associated description in the specification. Based on at least the foregoing, Applicant believes that the Section 112 rejection of claims 1, 10 and 16 has been overcome.

### **The Obviousness Rejection of Claims 1, 3-5 and 7 – Iseberg et al. in view of Bauman**

With regard to an obviousness rejection, MPEP 2142 states that in order for a *prima facie* case of obviousness to be established three basic criteria must be met. One criterion is that there must be some suggestion or motivation to combine or modify the reference teachings, and another is that the reference or combinations of references must teach or suggest all the claim limitations.

With regard to the second criterion above, Applicant submits that the combination of Iseberg et al. and Bauman lacks at least the limitation of “a tube nipple ” as specifically claimed by Applicant in amended claim 1. Claim 1 also clarifies that the tube nipple of claim 1 “provide[s] an acoustic pathway through at least one wall of the housing” and that “the first end of the rigid tube nipple [is] located within the housing and [is] acoustically coupled to the output

port of the receiver and the second end of the rigid tube nipple [is] located externally to the housing and [is] acoustically coupled to the flexible tube portion of the flexible eartip.”

The Office Action does not specifically state where such limitations are found in either the Iseberg et al. or Bauman references. While the Office Action suggests that the Iseberg et al. reference includes a tube nipple, Applicant has reviewed the sections of Iseberg et al. relied upon in the Office Action (i.e., col. 2, lines 7-67 and col. 4, lines 1-24) and finds no discussion of a tube nipple as claimed by Applicant. Furthermore, the Office Action suggests that Bauman discloses a flexible tube that extends from inside the housing to the outside. However, Bauman discloses a cylindrical tube 20 that extends inside the housing and a totally separate, second cylindrical tube 22 that extends outside the housing. As explained by the Bauman reference, this facilitates installation and removal of tube 22 from the housing. (See, e.g., Figs. 1 and 2, and col. 3, line 40 through col. 4, line 3 of Bauman).

In addition, the combination of Iseberg et al. and Bauman lacks at least the limitations of “the tube nipple and housing being configured and arranged such that the angle between a longitudinal axis of the tube nipple and a vertical axis of the housing is obtuse, such that the housing hangs approximately vertically along the side of a user's head when worn.” The Office Action acknowledges that the Iseberg et al. fails to specifically disclose these limitations. Furthermore, the Office Action appears to also acknowledge that the Bauman reference does disclose these limitations, stating that the Bauman reference “would enable” a configuration to achieve such limitations. Applicant submits that the Bauman reference adds nothing to the Iseberg et al. regarding these limitations.

Moreover, with regard to the first criterion above, Applicant submits that there is no

teaching in either of the Iseberg et al. or Bauman references to combine those references, or then modify their teachings as necessary to achieve Applicant's claimed invention.

Based on at least the foregoing, Applicant believes that the rejection of claims 1, 3-5 and 7 over Iseberg et al. in view of Bauman has been overcome.

**The Obviousness Rejection of Claims 8-9 and 12-13 – Iseberg et al. in view of Leenen**

Applicant submits that the combination of Iseberg et al. and Leenen lacks at least the limitation of “a tube nipple ” as specifically claimed by Applicant in amended claim 1. Claim 1 recites that the tube nipple of claim 1 “provide[s] an acoustic pathway through at least one wall of the housing” and that “the first end of the rigid tube nipple [is] located within the housing and [is] acoustically coupled to the output port of the receiver and the second end of the rigid tube nipple [is] located externally to the housing and [is] acoustically coupled to the flexible tube portion of the flexible eartip.”

The Office Action does not specifically state where such limitations are found in either the Iseberg et al. or Leenen references. While the Office Action suggests that the Iseberg et al. reference includes a tube nipple, Applicant has reviewed the sections of Iseberg et al. relied upon in the Office Action (i.e., col. 2, lines 7-67 and col. 4, lines 1-24) and finds no discussion of a tube nipple as claimed by Applicant. Furthermore, the Office Action suggests that Leenen discloses a rigid flexible tube that extends from within the housing to the external structure of the housing. However, Leenen discloses an extraction means 12 in the form of a hollow tube that is grasped by a user to remove the hearing aid from the ear. The extraction means 12 is coupled to

a microphone 1 (and not to the output port of the receiver) and is not coupled in any way to any kind of flexible ear tip that fits into the ear canal. In other words, the extraction means is located on a completely different side of the device, and is used for a different purpose. (See, e.g., Fig. 1 and col. 2, lines 44-56 of Leenen).

Moreover, Applicant submits that there is no teaching in either of the Iseberg et al. or Leenen references to combine those references, or then modify their teachings as necessary to achieve Applicant's claimed invention.

Nevertheless, Applicant has amended claim 8 so that it now recites "wherein the earphone providing a response that is approximately 0 dB relative to the TDH-39 standard at at least one of 6 and 8 khz." Applicant believes that the combination of Iseberg et al. and Leenen fails to disclose or suggest at least this additional limitation.

Based on at least the foregoing, Applicant believes that the rejection of claims 8-9 and 12-13 over Iseberg et al. in view of Leenen has been overcome.

**The Obviousness Rejection of Claim 10 – Iseberg et al. in view of Leenen and  
Further in view of Bauman**

Claim 10 has been amended and now recites that "the rigid tube nipple and the housing are configured and arranged such that the angle between a longitudinal axis of the rigid tube nipple and a vertical axis of the housing is obtuse, such that the housing hangs approximately vertically along the side of a user's head when worn." Applicant respectfully submits that claim 10 is allowable for at least the same reasons discussed above respecting claims 1 and 8.

Based on at least the foregoing, Applicant believes that the rejection of claim 10 over

Iseberg et al. in view of Leenen and further in view of Bauman has been overcome.

**The Obviousness Rejection of Claims 15-21 – Iseberg et al. in view of Bauman**

Applicant submits that the combination of Iseberg et al. and Bauman lacks at least the limitation of “a tube nipple having a first end and a second end, the first end located within the housing and acoustically coupled to the output port of the receiver and the second end located externally to the housing and acoustically coupled to the flexible eartip” as discussed above respecting claim 1.

In addition, the combination of Iseberg et al. and Bauman also lacks at least the limitation of “an acoustic damper located in the tube nipple proximate the first end of the tube nipple.” The Office Action states that the Iseberg et al. reference discloses an acoustic damper, and acknowledges that the damper is not at the first end of the tube as claimed, but states that it would have been obvious to a person of ordinary skill in the art position the damper as claimed by Applicant. However, as mentioned above, there must be some suggestion or motivation, in the prior art, to modify the teachings as the Examiner has done. Applicant submits that the Iseberg et al. reference actually teaches away from positioning the damper as claimed by Applicant. Specifically, Iseberg et al. states:

“An acoustic damper 50 is fitted in the outlet end portion 47 of the passage 46 and, as illustrated, includes a cup-shaped screen member 51 secured in a cylindrical support member 52. The outlet end portion 47 preferably has an enlarged diameter to provide a shoulder 53 *operative to limit the movement of the damper 50 toward the receiver 18 during assembly and to accurately fix its position.*”

(Col. 3, line 67 to col. 4, line 7; see also Fig. 2) (emphasis added). Thus, movement of the damper toward the first end (i.e., toward the receiver), as claimed by Applicant, is prevented by the physical structure of the Iseberg et al. device. Movement as such would completely change

the acoustic response of the Iseberg et al. device, and thus a person of ordinary skill in the art would never look to modify the Iseberg et al. device to achieve Applicant's claim limitation.

Based on at least the foregoing, Applicant believes that the rejection of claims 15-21 over Iseberg et al. in view of Bauman has been overcome.

#### **New Claims 22 and 23.**

Applicant has submitted new claims 22 and 23, which correspond to claims 12 and 13 prior to the amendments submitted above. Applicant points out that the Office Action does not specifically address claims 12 and 13, and Applicant therefore believes the Examiner may have intended to allow those claims. In addition to reasons discussed above, Applicant submits that the prior art of record does not disclose or suggest at least "a flexible channel located between the output port of the receiver and the first end of the rigid tube nipple" as set forth in new claims 22 and 23.

#### **Conclusion**

Based on at least the foregoing, Applicant believes that all claims 1-23 are in condition for allowance. If the Examiner disagrees, Applicant respectfully requests a phone interview, and requests that the Examiner telephone the undersigned at 312-775-8000.

Applicant encloses herewith a Request for a One-Month Extension of Time, which authorizes that the associated fee be charged to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017. In addition, Applicant hereby authorizes the Commissioner to charge any other fees required by this submission to the same deposit account.

A Notice of Allowability is courteously solicited.

Respectfully submitted,



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Christopher C. Winslade  
Reg. No. 36,308  
Attorney for Applicant

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McAndrews, Held & Malloy, Ltd.  
500 West Madison Street, 34th Floor  
Chicago, Illinois 60661  
(312) 707-8889



## APPENDIX A

1. (Twice amended) An insert earphone comprising:

a housing;

a receiver located in the housing and having an output port, the receiver for electrically coupling with an audio signal source;

a flexible eartip for acoustic sealing with an ear canal of a user; and

a tube nipple providing an acoustic pathway through at least one wall of the housing and having a first end and a second end, the first end being located within the housing and being acoustically coupled to the output port of the receiver and the second end being located externally to the housing and being acoustically coupled to the flexible eartip, the tube nipple and housing being configured and arranged such that the angle between a longitudinal axis of the tube nipple and a [the] vertical axis of the housing is obtuse, such that the housing hangs approximately vertically along the side of a user's head when worn.

8. (Twice amended) An insert earphone comprising:

a housing;

a receiver located in the housing and having an output port, the receiver for electrically coupling with an audio signal source;

a flexible eartip for acoustic sealing with an ear canal of a user, the flexible eartip having a foam eartip portion and a flexible tube portion; and

a rigid tube nipple providing an acoustic pathway through at least one wall of the

housing and having a first end and a second end, the first end of the rigid tube nipple being located within the housing and being acoustically coupled to the output port of the receiver and the second end of the rigid tube nipple being located externally to the housing and being acoustically coupled to the flexible tube portion of the flexible eartip;

wherein the earphone providing a response that is approximately 0 dB relative to the TDH-39 standard at at least one of 6 and 8 khz.

10. (Amended) The insert earphone of claim 8 wherein the rigid tube nipple and the housing are configured and arranged such that the angle between a longitudinal axis of the rigid tube nipple and a [the] vertical axis of the housing is obtuse, such that the housing hangs approximately vertically along the side of a user's head when worn.

16. (Amended) The insert earphone of claim 15 wherein the tube nipple and the housing are configured and arranged such that the angle between a longitudinal axis of the tube nipple and a [the] vertical axis of the housing is obtuse, such that the housing hangs approximately vertically along the side of a user's head when worn.